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January 27, 2010

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW, Portals  
Washington, DC 20554

**Re: GN Docket Nos. 09-47, 09-51, and 09-137**

Dear Ms. Dortch,

Enclosed herewith for filing in the above-referenced dockets are the Reply Comments of National LambdaRail, Inc to NBP Public Notice #30.

Respectfully yours,

A handwritten signature in black ink, appearing to be 'RBL', written over the typed name.

Randall B. Lowe

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, DC 20554**

In the Matter of	)	
	)	
	)	GN DOCKET NO. 09-47
National Broadband Plan	)	GN DOCKET NO. 09-51
	)	GN DOCKET NO. 09-137

**REPLY COMMENTS — NBP PUBLIC NOTICE # 30  
OF  
NATIONAL LAMBDARAIL, INC.**

National LambdaRail, Inc. (“NLR”), by its attorneys and pursuant to the Commission’s Public Notice (DA 10-61, rel. Jan. 13, 2010), hereby submits its Reply Comments in the above-captioned proceedings. NLR, a not-for-profit, nationwide advanced broadband fiber network owned and operated by leading members of America’s higher research and education (“R&E”) community, has previously filed both comments and reply comments on the establishment of a national broadband plan (“Plan”).<sup>1</sup> Indeed, as the Commission recognized when it authorized participants in its Rural Health Care Pilot Program (“RHCPP”) to interconnect to NLR on a subsidized basis, NLR is a “not-for-profit nationwide backbone network, dedicated to educational, clinical, and research goals.”<sup>2</sup>

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<sup>1</sup> See Comments of NLR in GN Docket No. 09-51, filed June 8, 2009 and Reply Comments of NLR in GN Docket No. 09-51, filed July 21, 2009. See also American Recovery And Reinvestment Act of 2009 (“Recovery Act”), Public Law No. 111-5, 123 Stat. 115, § 6001(k).

<sup>2</sup> See *In the Matter of Rural Health Care Support Mechanism* (Order on Reconsideration), 22 FCC Rcd 2555 (2007) (“RHCPP Reconsideration Order”).

Specifically, NLR offered its advanced, nationwide backbone infrastructure, that it owns, manages and controls, as an essential ingredient to the Plan to help meet the nation's broadband needs.<sup>3</sup> The infrastructure has not only been deployed and is fully operational, but it can be made available to the public on a non-discriminatory, neutral basis without any acceptable use policy.<sup>4</sup> NLR also suggested that the Commission consider meeting the nation's broadband needs by a public-private partnership.

In these Reply Comments, NLR focuses on the broadband needs of community anchors, such as schools, libraries, healthcare providers and public safety agencies, by commenting that it can play a leading role in meeting the principles set forth in the joint "Reply Comments of Commenters Supporting Anchor Institution Networks" ("Joint Reply Comments") filed today in this proceeding.

**I. NLR CAN PLAY A LEADING ROLE IN EXTENDING ADVANCED BROADBAND INFRASTRUCTURE TO COMMUNITY ANCHORS THROUGHOUT THE NATION**

NLR is a signatory to, and wholeheartedly endorses, the Joint Reply Comments. Among other things, the Joint Reply Comments urge the Commission "to address the critical needs of community anchor institutions for high-capacity broadband connectivity." The Joint Reply Comments suggest a number of actions toward that goal that the government should consider, such as supporting a Unified Community Anchor Network ("UCAN"), which the Joint Reply Comments describe as a "'network of networks' from which all anchor institutions who wish can

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<sup>3</sup> The foundation of the NLR infrastructure is a dense wave division multiplexed (DWDM) national optical footprint using Cisco Systems optical electronic systems, with a maximum capacity of 160 wavelengths nationwide across roughly 12,000 route miles of fiber. Each wavelength can support transmissions of 10 billion bits per second (10 Gbps). The NLR wavelengths have been implemented using 10 Gbps Ethernet LAN PhY (physical layer), a technology and architecture that had previously been limited to metropolitan area networks and SONET (Synchronous Optical Network) technology employed by traditional telecommunications networks. See <http://www.nlr.net/services/infrastructure.php>.

<sup>4</sup> See NLR Comments and Reply Comments, *supra* note 1, *passim*.

receive high capacity broadband service.”<sup>5</sup> In particular, UCAN would be “open to interconnection by other broadband networks.” It would also utilize “existing infrastructure,” as well as create additional infrastructure.

As a fully operational, non-profit, wholly-owned and wholly *open* high-speed national fiber broadband network already dedicated to public purposes, NLR stands enthusiastically ready and willing to play a key leadership role in extending and maintaining advanced broadband connectivity to community anchors throughout the nation. In doing so, NLR would work closely with other national R&E networks, such as Internet2, as well as the RONS, both existing and future, a majority of which are members of NLR, to provide not only the network infrastructure but also the policy and technical coordination necessary to implement high end-to-end service quality and security.

NLR recognizes the need for coordinating broadband services beyond mere connectivity. Certain public service applications will be required for UCAN to achieve end-to-end quality of service criteria. Doing so will involve not just the actions of a single component of the UCAN, but close technical collaboration and cooperation among metropolitan, state, RON, and national components. Similarly, many public service applications will require privacy and security components that will need to be provided consistently across the many constituent networks of the UCAN.

NLR stands ready to work with others in the national, regional, and state networking communities to use its fully operational nationwide infrastructure to help connect public service networks and networks of community anchor institutions on a nondiscriminatory, neutral basis and, with appropriate funding under the Plan, to extend and maintain that leading edge

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<sup>5</sup> NLR is also signatory to the “Reply Comments of U.S. R&E Networks” which were also filed today in this proceeding and which also adopt the concept of UCAN.

infrastructure to thousands of community anchors across the nation with state-of-the-art speed and efficiency and at a fraction of the cost of constructing a new network or relying on the networks of for-profit carriers.<sup>6</sup>

In short, NLR's secure, nationwide fiber network constitutes a significant cornerstone of the "existing [non-profit] infrastructure" that should comprise a UCAN to the maximum extent practicable. NLR will utilize its assets and work with Internet2 and the rest of the R&E networking community to coordinate, manage, and operate a UCAN-style public service network.

## **II. NLR's NETWORK IS UNIQUELY AVAILABLE TO MEET THE NEEDS OF UCAN**

As described in its comments and reply comments in GN Docket No. 09-51, NLR is a non-profit organization created to advance and serve the research, clinical and educational goals of its members and other institutions through its dedicated, nationwide and advanced network infrastructure that is connected to RONS.<sup>7</sup> In turn, the RONS provide ubiquitous connectivity to "critical communities," including the community anchor institutions that are profoundly central to the goals of both the Broadband Technology Opportunities Program ("BTOP") established under the Recovery Act<sup>8</sup> and the longer-term aspirations of the Plan. In fact, over thirty state and multi-state RONS are interconnected with NLR or can easily be interconnected, forming a truly

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<sup>6</sup> In the *RHCPP Reconsideration Order*, the Commission found that "it will serve the public interest to allow [Rural Health Care Pilot Program] applicants to request funding to support the cost of connecting state and regional broadband networks to NLR ...." *RHCPP Reconsideration Order* at ¶ 5.

<sup>7</sup> NLR Comments at 2-3.

<sup>8</sup> Recovery Act at §6001(f)(3). See U. S. Department of Commerce, Notice of Funds Availability, 75 Fed. Reg. 3792 (Jan. 22, 2010) (focusing on the provision of middle mile broadband infrastructure to community anchor institutions for the second and final funding round of the BTOP program.)

nationwide broadband backbone.<sup>9</sup> Together, NLR and its RONS comprise a uniquely robust, cohesive, secure and comprehensive broadband infrastructure that already serves the nation's R&E community.

In sum, NLR provides the national backbone, or wide-area network component, of end-to-end broadband capacity. NLR also provides the testbed for advanced research at over 280 universities, private and U.S. government laboratories and advanced programs across the country.<sup>10</sup> NLR stands ready to use its infrastructure to also serve the panoply of America's healthcare, public safety, and other community anchor institutions.<sup>11</sup>

The infrastructure of NLR is also distinctly unique because it is not constrained by a restrictive acceptable use policy. Instead, NLR owns, manages and controls its network and does not impose any acceptable use policy on its user base.<sup>12</sup> NLR is, therefore, able to provide national backbone capacity that serves the public interest beyond the R&E community, such as healthcare, economic development, homeland security, governmental coordination, library imaging and exchanges, and public broadcasting.

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<sup>9</sup> See Exhibit 1 for a list of the RONS connected to NLR. The members who own and govern NLR also own and operate 21 RONS. RONS provide the facilities and technical direction necessary to guarantee end-to-end interconnectivity and interoperability. They also support the advanced applications of their respective communities.

<sup>10</sup> For examples of these activities, see [www.nlr.net](http://www.nlr.net).

<sup>11</sup> A partial list of NLR network connections to health care providers is appended to NLR's Petition for Reconsideration as Attachment B which was filed by NLR on October 30, 2006 in the RHCPP proceeding (WC DKT. No. 02-60.)

<sup>12</sup> NLR's bylaws specifically provide that the only acceptable use policy permitted is that which is "the least restrictive as necessary to preserve" the tax exempt status of NLR.

### **III. NLR, IN COORDINATION WITH OTHER R&E NETWORKS, CAN BRING TO FRUITION A PUBLIC-PRIVATE PARTNERSHIP**

Clearly, as the Commission has recognized,<sup>13</sup> public-private sector partnerships are urgently needed to achieve the paramount goal of giving the American people the world's greatest public broadband infrastructure. NLR's July 21, 2009 reply comments in GN Docket No. 09-51 discussed several highly successful public-private partnerships in other nations, describing in particular such partnerships in Australia, Singapore and the Netherlands, which, in the words of the Australian government, are transforming that nation from a "broadband backwater" into a global leader in delivering advanced infrastructure to its people.<sup>14</sup> NLR urged the Commission to consider a similar approach when developing the Plan.

With federal assistance through public-private partnerships, the nation can meet its goal of affording advanced broadband capability to everyone across the nation. And, as the Commission and the Department of Commerce have attested, the extension of an advanced broadband infrastructure to community anchor institutions nationwide may be the most effective and cost-efficient way to bring the promise and opportunities of broadband connectivity to all the people of the United States.<sup>15</sup>

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<sup>13</sup> See, e.g., *Notice of Inquiry* in this proceeding, 24 FCC Rcd 4342 (2009) at ¶ 7; NBP Public Notice # 7, DA 09-2122, rel. Sept. 25, 2009.

<sup>14</sup> NLR Reply Comments, *supra* note 1, at 2-7 & n. 6.

<sup>15</sup> See U. S. Department of Commerce, *Notice of Funds Availability*, 75 Fed. Reg. 3792 (Jan. 22, 2010). The initial NOFA issued jointly by the Departments of Commerce and Agriculture, soliciting applications for \$7.2 billion in broadband infrastructure project funding under the Recovery Act, strongly encouraged and provided incentives by awarding scoring "points" to those projects that involve partnerships between the public and private sectors. See *Notice of Funds Availability*, 74 Fed. Reg. 33104, 33115 (Jul. 9, 2009).

Similarly, the public-private partnership of UCAN proposed in the Joint Reply Comments filed today, including the establishment and funding of UCAN, are principal and indispensable components of a successful Plan. With federal assistance, non-profit networks, such as NLR, which are able to serve community anchors everywhere, can bring broadband connectivity at the highest speeds to Americans in every state of the Union, at a fraction of the cost of constructing new networks and can avoid primarily relying on the networks of commercial carriers.

#### **IV. CONCLUSION**

NLR urges the Commission to adopt and implement the recommendations contained in the Joint Reply Comments. From this unified approach, all anchor institutions can receive high capacity broadband service, utilizing existing infrastructure wherever practicable and managed and operated by non-profit entities with appropriate expertise. NLR also endorses the Reply Comments of the U.S. R&E Networks and encourages the Commission to study its recommendations. That joint filing represents an historic unity among U.S. R&E networks on an important public issue.

Incorporation of NLR's national broadband infrastructure, which is fully deployed and operational and which can be made available for public service on a non-discriminatory, neutral basis without any acceptable use policy, can and should be a cornerstone of a national UCAN.



As custodian of this advanced national infrastructure, NLR pledges its support, resources and managerial leadership to the Commission's efforts.

Respectfully submitted,

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January 27, 2010

## **EXHIBIT 1**

### **State and Regional Optical Networks**

#### **RONs Connected to NLR**

CENIC

PNWGP

FRGP

OneNET

ILIGHT

ONECOMMUNITY

PSC/3ROX

NeLR

MATP/MAX

NCREN

SLR/SoX

ORNLFUTURENET

FLR

LONI

LEARN

NMLR

MOREnet

BOREAS

WiscREN

OMNIPOP

MREN

Merit

#### **States Served by the Connected RONs**

California, Nevada, Arizona

Washington, Oregon, Hawaii, Alaska, Montana,  
Idaho

Colorado, Utah, Wyoming, Idaho

Oklahoma, Arkansas

Indiana

Northeast Ohio

Western Pennsylvania, West Virginia

New York, Massachusetts

Virginia, Maryland and DC

North Carolina

Georgia, Alabama, Tennessee, Kentucky

Atlanta to Chicago

Florida

Louisiana, Mississippi

Texas

New Mexico

Missouri

Wisconsin, Minnesota, Iowa

Wisconsin

Big 10 Universities

Illinois

Michigan

OSCnet

MAGPI

NYSERNet

OSHEAN

NoX

Ohio

Eastern Pennsylvania, Delaware, New Jersey

New York

Rhode Island

Massachusetts, Vermont, New Hampshire, Maine